FIG. 1 (PRIOR ART)

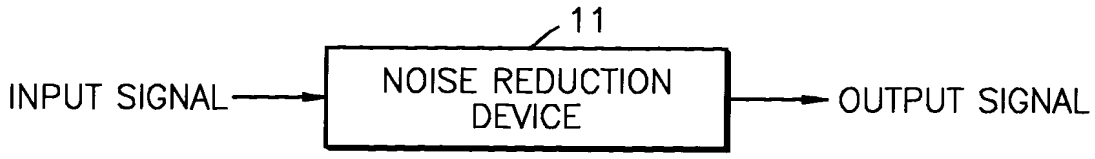


FIG. 2 (PRIOR ART)

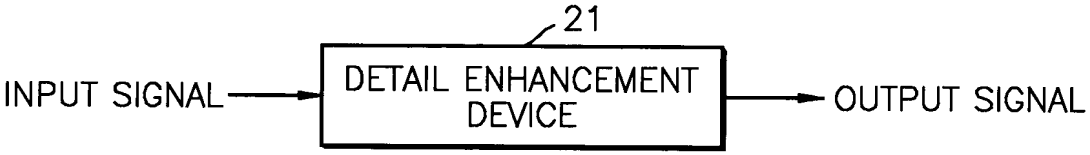


FIG. 3

TYPE OF INPUT IMAGE (WITH RESPECT TO PIXEL FREQ.)	MAX FREQUENCY	SAMPLING FREQ. (NYQUIST FREQ.)
ORIGINAL SD	4.3 Mhz	13.5 Mhz (6.75 Mhz)
DOWN SCALED SD (FROM HD)	IT DEPENDS ON SCALE RATIO OF IMAGE	
ORIGINAL HD	30 Mhz	74.25 Mhz (37.125 Mhz)
UP SCALED HD (FROM SD)	IT DEPENDS ON SCALE RATIO OF IMAGE	

FIG. 4 (PRIOR ART)

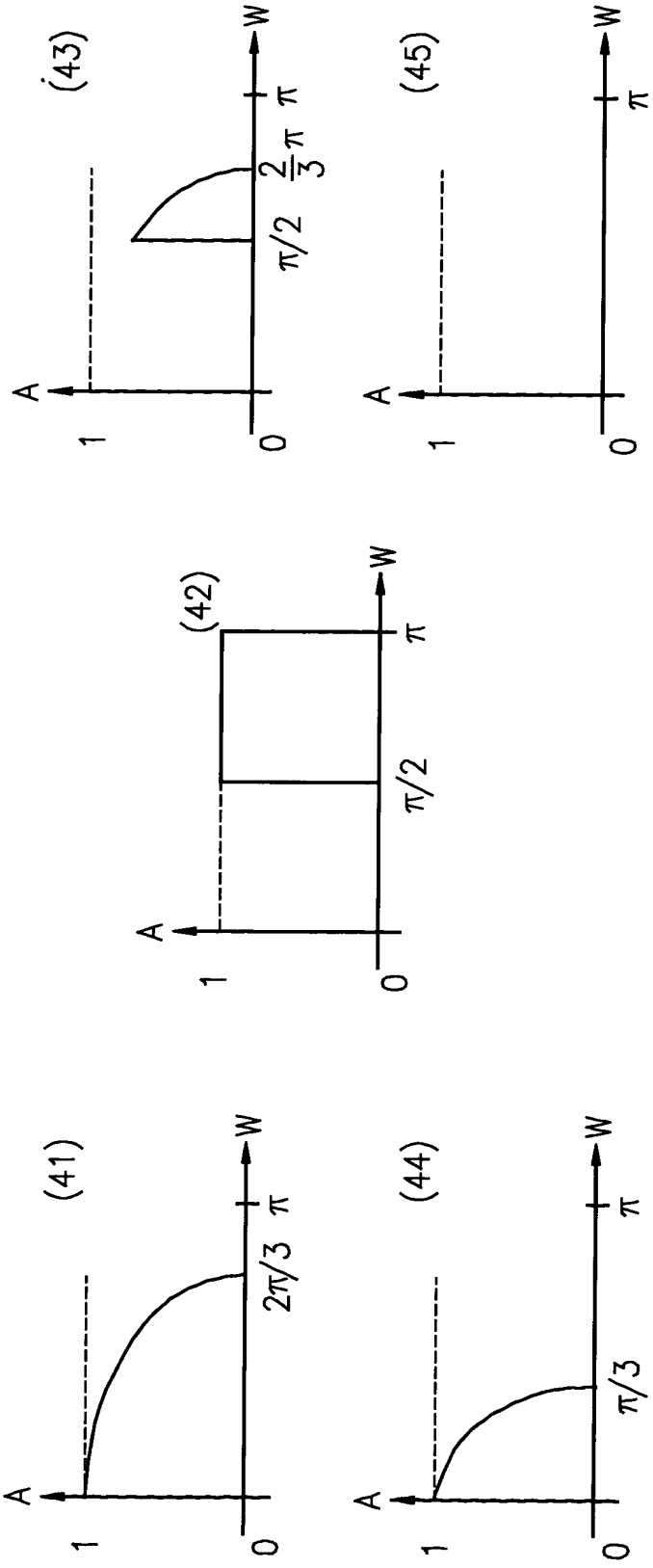


FIG. 5

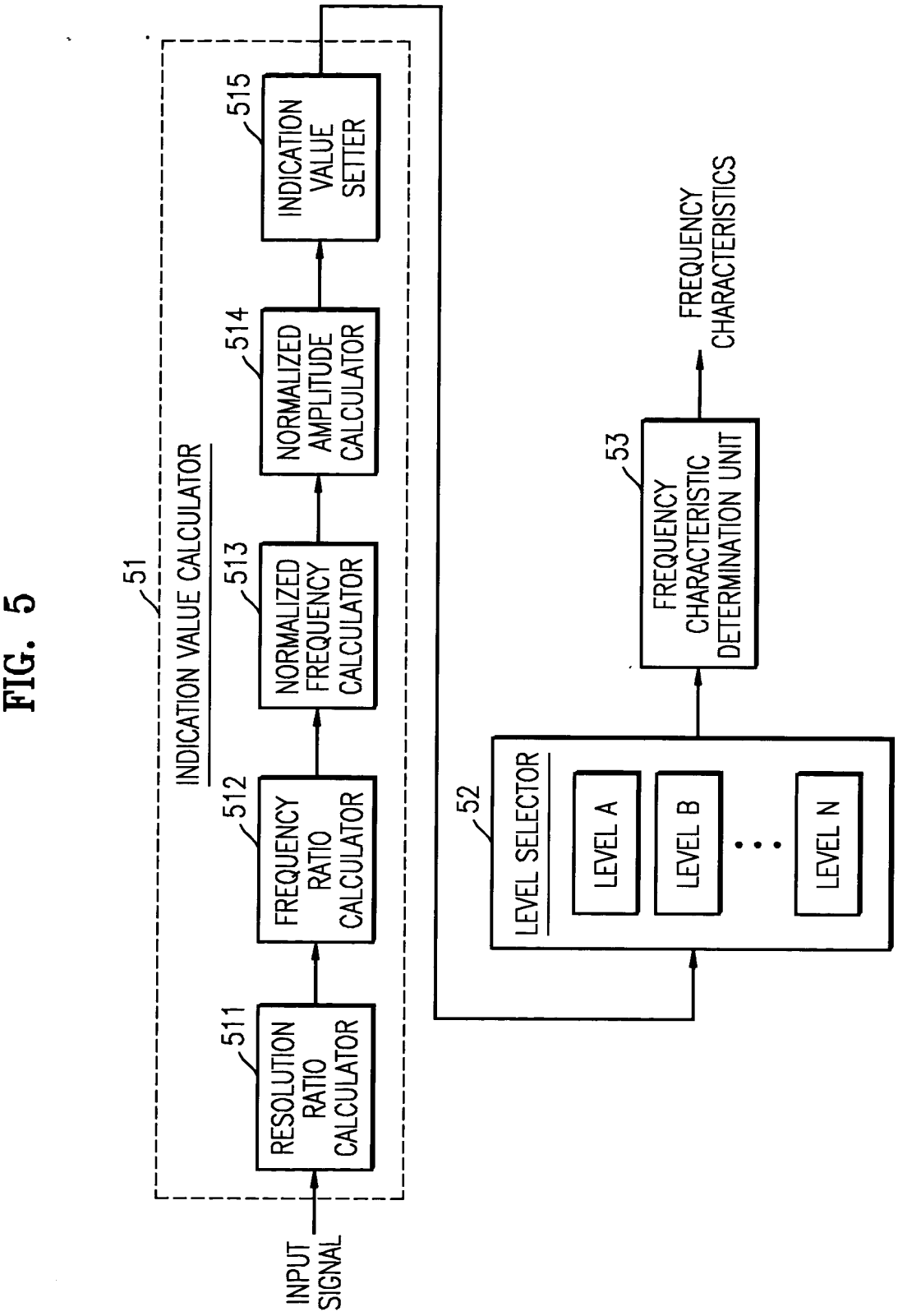

INPUT SIGNAL
51
INDICATION VALUE CALCULATOR
511
RESOLUTION RATIO CALCULATOR
512
FREQUENCY RATIO CALCULATOR
513
NORMALIZED FREQUENCY CALCULATOR
514
NORMALIZED AMPLITUDE CALCULATOR
515
INDICATION VALUE SETTER
52
LEVEL SELECTOR
LEVEL A
LEVEL B
LEVEL N
53
FREQUENCY CHARACTERISTIC DETERMINATION UNIT
FREQUENCY CHARACTERISTICS

FIG. 6

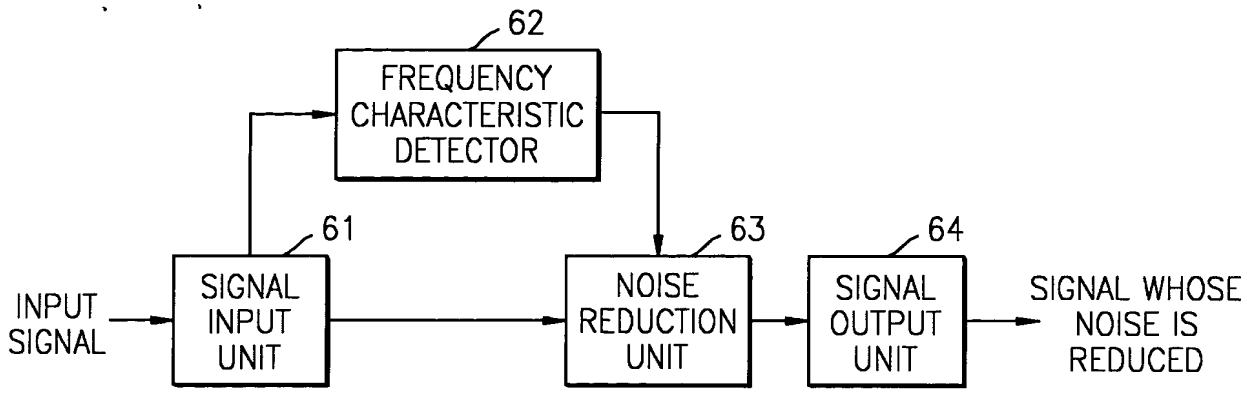

62
FREQUENCY CHARACTERISTIC DETECTOR
61
63
64
INPUT SIGNAL
SIGNAL INPUT UNIT
NOISE REDUCTION UNIT
SIGNAL OUTPUT UNIT
SIGNAL WHOSE NOISE IS REDUCED

FIG. 7

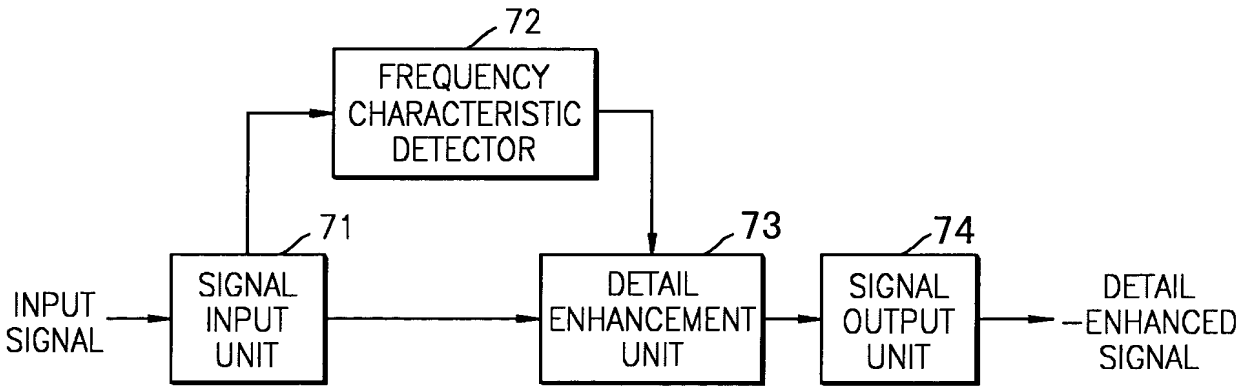

72
FREQUENCY CHARACTERISTIC DETECTOR
71
73
74
INPUT SIGNAL
SIGNAL INPUT UNIT
DETAIL ENHANCEMENT UNIT
SIGNAL OUTPUT UNIT
DETAIL -ENHANCED SIGNAL

FIG. 8

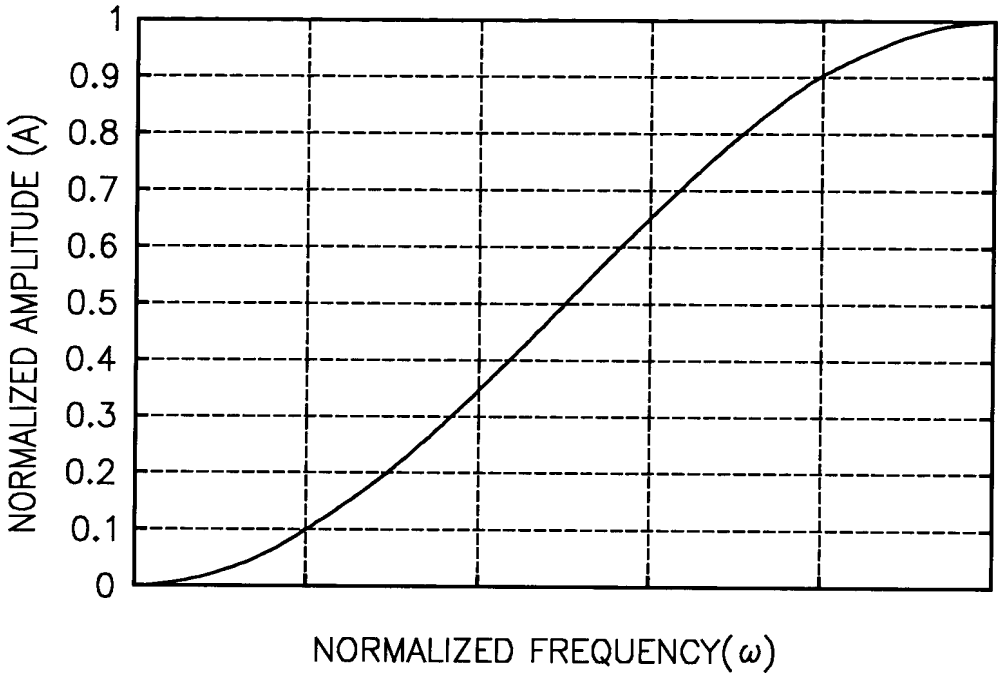

1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
NORMALIZED AMPLITUDE (A)
NORMALIZED FREQUENCY(ω)

FIG. 9

UP-SCALED INPUT IMAGE	NORMALIZED MAXIMUM FREQUENCY	IF AN INPUT IMAGE HAS A RANGE BETWEEN 0 AND 255 INDICATION VALUE=> ABS(-128~127)=(0~128)
720 x 480=>1280 x 720	(4.3/6.75) x (720/1280)=0.36	37 under
720 x 480=>1920x 720	(4.3/6.75) x (720/1920)=0.24	18 under
1280 x 720=>1920 x 1080	(30/37.125) x (1280/1920)=0.54	71 under

FIG. 10

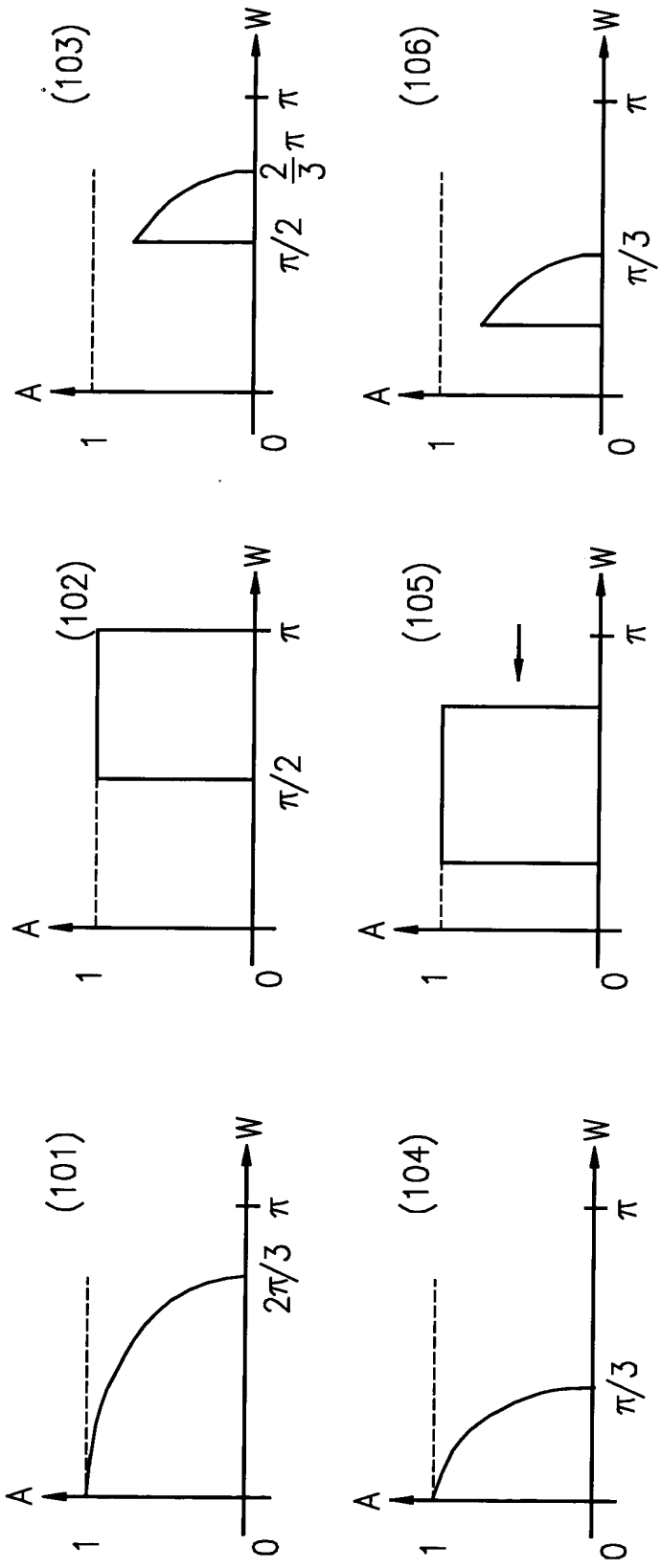


FIG. 11

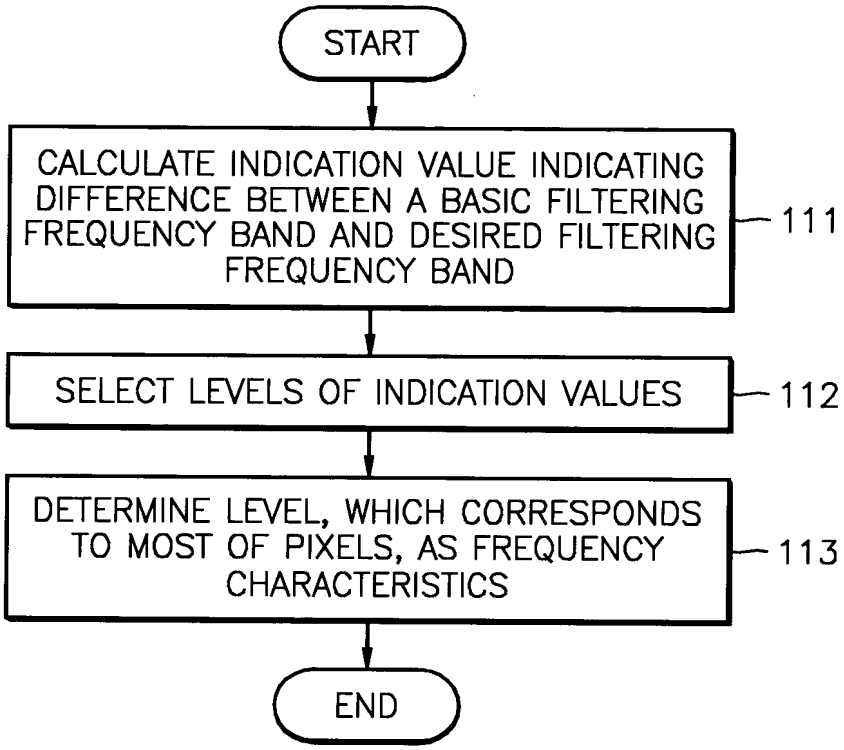

START
CALCULATE INDICATION VALUE INDICATING DIFFERENCE BETWEEN A BASIC FILTERING FREQUENCY BAND AND DESIRED FILTERING FREQUENCY BAND
111
SELECT LEVELS OF INDICATION VALUES
112
DETERMINE LEVEL, WHICH CORRESPONDS TO MOST OF PIXELS, AS FREQUENCY CHARACTERISTICS
113
END

FIG. 12

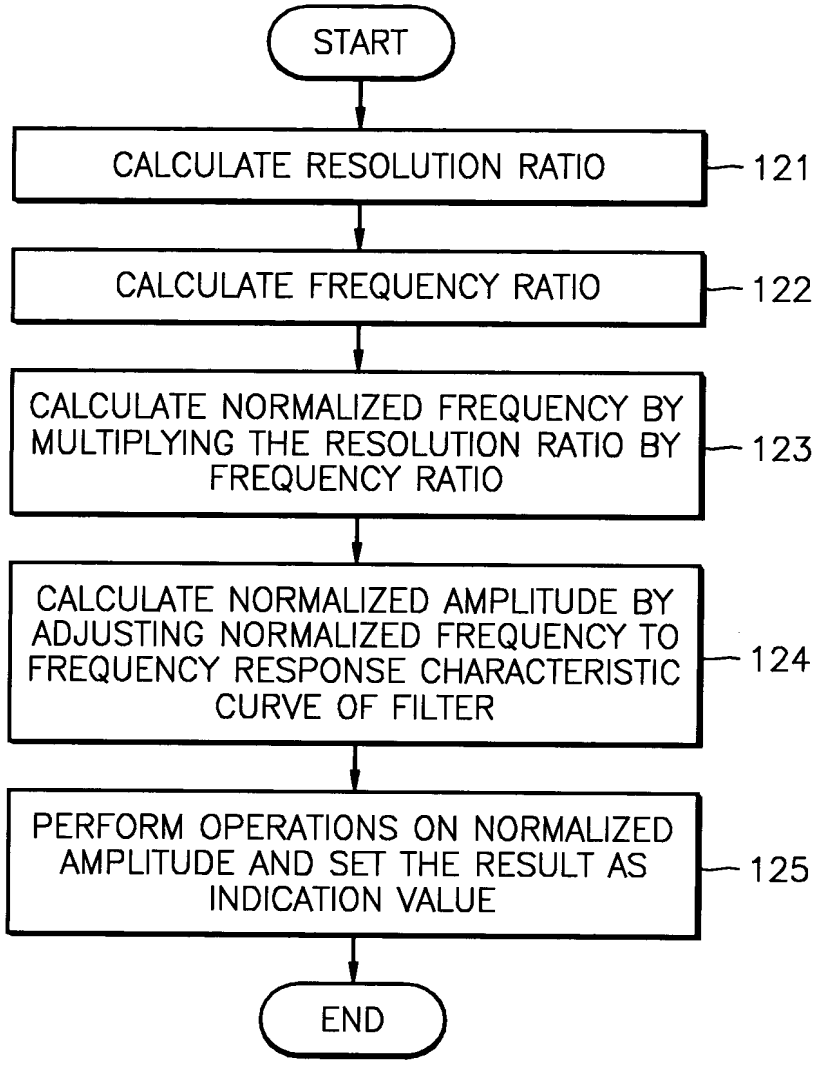

START
CALCULATE RESOLUTION RATIO
121
CALCULATE FREQUENCY RATIO
122
CALCULATE NORMALIZED FREQUENCY BY MULTIPLYING THE RESOLUTION RATIO BY FREQUENCY RATIO
123
CALCULATE NORMALIZED AMPLITUDE BY ADJUSTING NORMALIZED FREQUENCY TO FREQUENCY RESPONSE CHARACTERISTIC CURVE OF FILTER
124
PERFORM OPERATIONS ON NORMALIZED AMPLITUDE AND SET THE RESULT AS INDICATION VALUE
125
END

FIG. 13

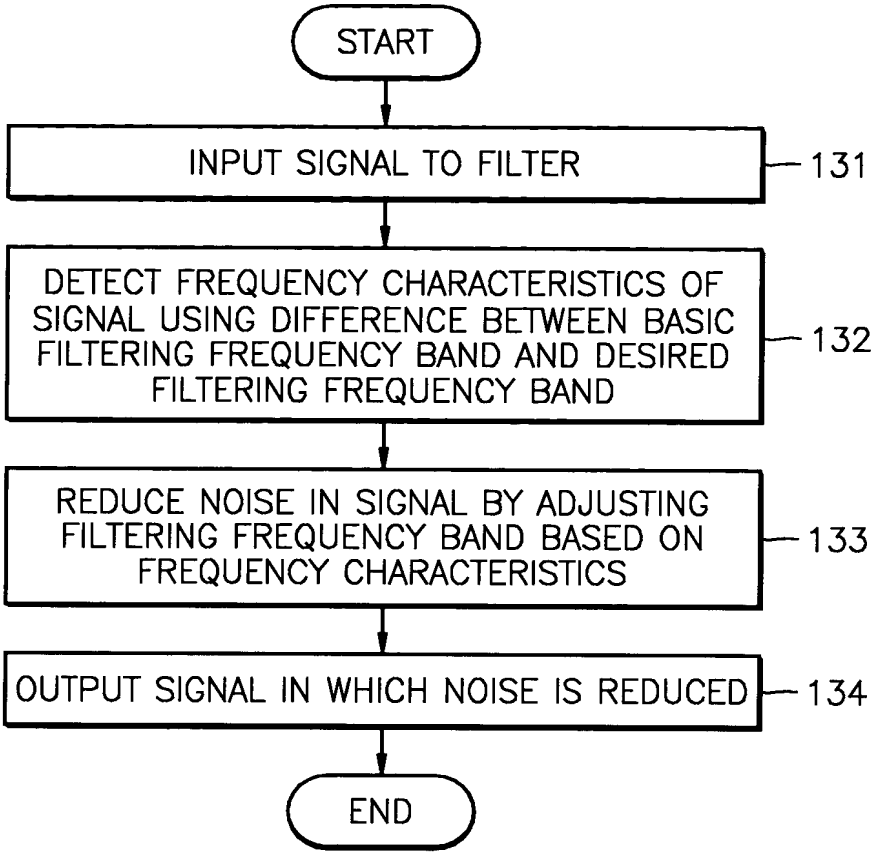
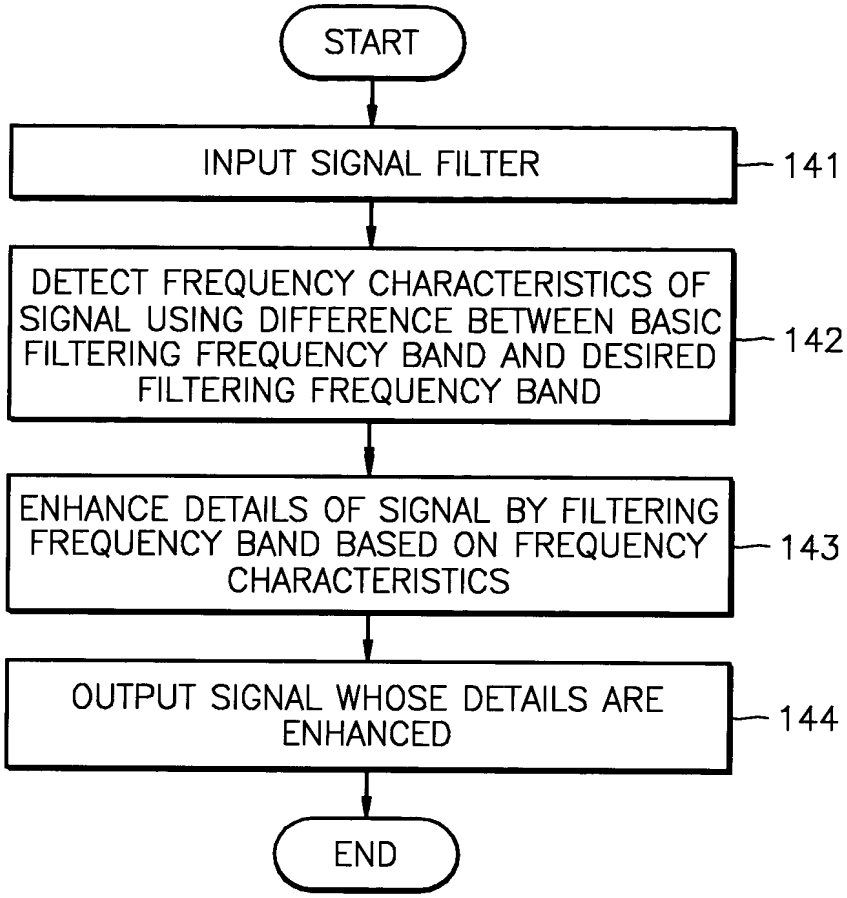

START
INPUT SIGNAL TO FILTER
131
DETECT FREQUENCY CHARACTERISTICS OF SIGNAL USING DIFFERENCE BETWEEN BASIC FILTERING FREQUENCY BAND AND DESIRED FILTERING FREQUENCY BAND
132
REDUCE NOISE IN SIGNAL BY ADJUSTING FILTERING FREQUENCY BAND BASED ON FREQUENCY CHARACTERISTICS
133
OUTPUT SIGNAL IN WHICH NOISE IS REDUCED
134
END

FIG. 14


START
INPUT SIGNAL FILTER
141
DETECT FREQUENCY CHARACTERISTICS OF SIGNAL USING DIFFERENCE BETWEEN BASIC FILTERING FREQUENCY BAND AND DESIRED FILTERING FREQUENCY BAND
142
ENHANCE DETAILS OF SIGNAL BY FILTERING FREQUENCY BAND BASED ON FREQUENCY CHARACTERISTICS
143
OUTPUT SIGNAL WHOSE DETAILS ARE ENHANCED
144
END